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Service Quality Perceptions in Health Care Services – A Case Study of Hospital Services

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Abstract: *Interestingly, over the years, the conceptualization, measurement and applications of SERVQUAL across different industrial and commercial settings have had positive metamorphosis. The current research work strives to bring to light some of the critical determinants of service quality that have been overlooked in the earlier models and proposes a revised comprehensive model and an instrument framework for measuring customer perceived service quality in the health care sector. Data for this study has been collected from customers of Indian Hospitals sector. The present study offers a systematic procedure that could form the cornerstone for providing further insights on the conceptual and empirical analysis of customer perceived service quality and its implications for hospitals industry.*

Index Terms: *Service Quality, instrument, reliability, validity, health care.*

I. INTRODUCTION

The entire gambit of business performance in the last decade has faced a paradigm shift, with quality consistently being considered as one of management's top-most competitive priorities and a prerequisite for sustenance and growth. Quality is proposed as the most potent tool for enhanced business performance [1].

In today's world of fierce competition, rendering quality service is a key for subsistence and success in any organization, more so in a service organization like health care sector [2-7]. The cardinal accent of both academia and business focused essentially on ascertaining the customers' perceptions of service quality and subsequently contriving strategies to meet and surmount customer expectancies. But most of these efforts have drawn more criticisms than acceptance by a large section of seasoned researchers. In this background, the current research work aspires to develop an empirical model of service quality, tested in hospitals sector that could form the basis for a better understanding of the determinants of customer perceived service quality.

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Therefore, the basic objective of this paper is to develop and purify the scale for measuring service quality suiting the Indian hospitals sector.

II. THEORETICAL BACKGROUND

Service quality is the function of perceptions, expectations and performance. Early writing on the topic of service quality, defines service quality as a comparison of what customers feel a service provider should offer (i.e. their expectations) with how the provider actually performs [8 - 10] and "service quality is a measure of how well the service level delivered matches customer expectations. Delivering quality service means conforming to customer expectations on a consistent basis". Service Quality as perceived by customers is defined as the degree and directions of discrepancy between customers' service perceptions and expectations. It is also defined as difference between "technical quality" (what is delivered) and "functional quality" (how it is delivered), and as "process quality" (judged during the service) and "output quality" (judged after the service).

Importance of service Quality, direct relationship between service quality and profitability, helps in defensive and offensive marketing i.e. customer retention and increase of sales is done, striking a balance between customer perception and expectations, increasing purchases, free advertising through word of mouth. Too much newness can do more harm than good. Some of the problems are communication gap, service proliferation and complexity, improper selection and training of service workers, short-run view of the business. If a company gives a quality service, they can survive and run over any kind of crunch situation.

The concept of liberalization and globalization opened the market to intense competition throughout the world. So, today the customers are not ready to buy a product based on its physical characteristics, brand name, or price alone. The purchase is made mostly on customer's perception of quality attached to a product [11]. This is more true in a competitive sector like

Indian hospitals sector. This customer focused definition of quality is said to have grown out of the service marketing literature. By this, we can rightly say that quality is the vital aspect for a product. Everybody started to give quality product to survive in the intense competition. So there needs a change apart from product quality to have an edge over competitors, thereby came into existence the concept of service quality. Service quality is the function of perceptions, expectations and performance. Early writing on the topic of service quality, defines service quality as a comparison of what customers feel a service provider should offer (i.e. their expectations) with how the provider actually performs. Service quality as perceived by customers, is the degree and directions of discrepancy between customers' service perceptions and expectations i.e. P-E (Performance – Expectations).

III. Service Quality Measurement Models

In the tough competitive milieu, measurement of service quality has increasingly created an interest among the service providers and the scholars alike. It is so because service quality is being used to position their respective products in the market place. The different service quality models that have been developed to measure the quality of services in chronological order are as follows:

1. The SERVQUAL Model A [2],
2. The SERVQUAL Model B [3],
3. The SERVPERF Model [4],
4. The Human-Societal Element Model [12].

The famous trio in services literature [13-18], have coined the concept of measuring 'service quality' very popularly referred to as SERVQUAL Model. They have started the unending journey of conceptualizing the measurement of service quality in 1985 with ten service quality dimensions, later on the customer's perception and expectation regarding the service was filtered and refined to five major service quality dimensions, as follows; tangibles, reliability, responsiveness, assurance and empathy. Again the five major service quality dimensions were refined further and fine tuned by changing the statements to get more reliable and valid results but same criteria is used to check the psychometric properties of the SERVQUAL scale. All new models and any new theories will always prone to criticisms similarly the SERVQUAL model also widely criticized on different times by different authors. It is limited to one sector say banking alone; the score is biased because of wrong terminology used in the statements. Mostly it has preoccupied the psychometric and methodological soundness of scales. It was commented that it is unnecessary to measure customer expectations in service quality research. In 1994 they contended that measuring perceptions is sufficient they contend. SERVQUAL model is based on Disconfirmation Paradigm, which is not suitable for services and many researchers in service marketing commented on interpretation and operationalization of the expectations standard.

The strong critics of SERVQUAL model [4] had developed a new model in 1992, which was popularly called as SERVPERF model. Their conceptualization of service quality model is, based on the performance component alone. They proposed what is popularly referred to as the 'SERVPERF' scale. It is a single item scale. They have developed their model based on Performance Model Satisfaction over the Disconfirmation Paradigm used by the SERVQUAL scale. They have reduced the number of items to be measured but they have used the same service quality dimensions of SERVQUAL viz., tangibles, reliability, responsiveness, assurance and empathy. The critique of this SERVPERF model is, it is preoccupied with psychometric and methodological soundness of scales. It is used and tested only in developed nations.

The Human-Societal Element Model [19,20] was developed with a view to overcome the drawbacks of SERVQUAL scale as the SERVQUAL Instrument does not address certain important constituents of service quality, like service product or core service and systematization/standardization of service delivery. This model conceptualizes customer-perceived serviced quality based on the following five service quality dimensions they are; Core service or Service Product, Human element of Service Delivery, Systematization of Service Delivery, Tangibles of Service and Social Responsibility. In this background, the current empirical research work strives to bring to light some of the critical determinants of service quality that have been overlooked, and proposes a revised comprehensive model and an instrument framework for measuring customer perceived service quality. The proposed instrument has been empirically tested for unidimensionality, reliability and constructs validity. The present study offers a systematic procedure that could form the cornerstone for providing further insights on the conceptual and empirical comprehension of customer perceived service quality and its constituents. Finally suggests the future research directions so as to develop country and industry specific SQ models.

IV. Indian Health Care Sector

India, in the past one decade is fast becoming a global hub of medical tourism with wide range of health care centers catering to a spectrum of medical fields, namely, allopathy, homeopathy, ayurvedic, yoga

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centric and so on for providing medical solutions to physical and mental related problems. The recent boom in the organized sector of medical hospitals, comprising small, medium, large hospitals and hospital chains , not to be left behind, the medical transcription fields as well, signifies the dawn of new era of successful phase in Indian health care services sector. The phenomenal growth in fitness centres across the country coupled with the surge in traditional pharma industries at global level suggest that India has been viewed as a reliable hub for medical solutions at competitive costs and more admirably with appreciable customer care. Touching upon this critical aspect of 'customer care' which determines the satisfaction level of customers of any service organization, more specifically, the hospital services, the Indian hospitals sector has woke up to this reality and working more on service quality aspects, viz. reliability and responsiveness which score over everything else in clinching clientele for hospital services. The current buzz word in this industry is 'customer centric' operations, and therefore it is felt appropriate by the authors of this paper to conduct service quality perceptions survey among the hospital patients of this country.

V. RESEARCH METHOD

Forty four items reflecting the seven dimensions of service quality were prepared through review of extant service quality literature. These statements were used in Phase – I of the study. Before these items were surveyed from the respondents in Phase – I, 44 items were given to 52 Doctors and Deans from six hospitals across Tamil Nadu to review and clarify the items under each of the above-said six dimensions. For this purpose the managers were given the description attached to each of the dimension. All the 52 Doctors reviewed the items and cast them in the appropriate dimensions. Accordingly, only those items that were agreed to have been reflecting a particular dimension by 80% of these judges were retained for future analysis. On this basis only 36 items were retained. In the II Phase of the study, these 36 items were submitted for response measurement on a 5 point likert scale anchored by 'Strongly agree (=5) to strongly Disagree (=1)' were submitted for data collection from a selected 170 customers from five hospitals situated in Coimbatore city were personally requested to provide information. The details of the analysis and results are presented in the following section.

VI. SCALE DEVELOPMENT

The procedure adopted for the development of scale;

1. A definition of the construct and generation of statements for inclusion in an item pool.
2. Selection of type of scaling to be used.
3. Item analysis of the preliminary scale.
4. Reliability testing of the scale and
5. Validity of the final scale.

The various Service quality dimensions that are used and modified in the study are explained in the following table nos.1and 2.

Table 1: Service Quality Scale Dimensions

Sl no:	Critical Factors	Explanation of the critical factors.
1.	Service delivery	This factor refers to all aspects (reliability responsiveness, assurance empathy, moment of truth, critical incident and recovery) that will fall under the domain of the human element in the service delivery.
2	Servicescapes	The tangible facets of the service facility (equipment, machinery, signage, employee appearance, etc) or the man-made physical environment popularly known as the "Servicescapes".
3.	Service element	The core service portrays the "content" of a service. It portrays the "what" of a service. i.e., the service product is whatever features that are offered in a services
4	Service design	The processes, procedures, systems and technology that would make a service a seamlessness one. Customers would always like and expect the service delivery processes to be perfectly standardized streamlined, and simplified so that they could receive the service without any hassles, hiccups or undesired/inordinate questioning by the service providers.
5	Service credence	Social responsibility helps an organization to lead as a corporate citizen in encouraging ethical behaviour in everything it does. These subtle, but nevertheless forceful, elements send strong signals towards improving the organization's image and goodwill and consequently influencing the customers" overall evaluation of service quality and their loyalty to the organization.

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Table 2:Modified Items in the Service Quality Instrument

Sl. No.	Items Originally in Sureshchandar et al.	Modified items in the Present Instrument	Dimension in the Revised Instrument
1	Whenever a critical incident takes place (i.e. when a problem arises), the degree to which the organization succeeds in bringing the condition back to normally by satisfying the customer.	Solving the problems immediately whenever it arises.	Service Delivery
2	Regularly apprising the customers about information on service quality and actual service performance versus targets in the organization.	Regularly apprising the customers about information on service quality and actual service performance.	Service Delivery
3	Having house keeping as a priority and of the higher order in the organization.	Maintaining the interiors in the most appealing form.	Servicescapes
4	Equal treatment stemming form the belief, everyone, big or small, should be treated alike.	Equal treatment to all customers, without any bias.	Service Delivery

Table 3: Summary of Scale Development Procedure and Results

No.	Stages of Development	No of Items	Sample Size	Types of Analysis Performed	Results of Analysis
1	Item Selection	41	22	Judgment and Editing	Elimination of redundant and ambiguous items and modified complicated statements
2	Item Analysis	36	74	T – test for item difference in upper and lower quartiles	36 items were significantly different at 0.001 alpha level.
3	Reliability Testing a. Spilt – Half	32	170	Guttmann's Formula	Coefficient was estimated at 0.91
		32	170	Cronbach Formula	Coefficient was estimated at 0.99
	b. Internal Consistency c. Test - Retest	32	170	Pearson's Correlation Coefficient of total scale score for two administrations and correlation coefficients of means of each items for two administrations	Correlation coefficient of total score was 0.78 and of means of each item was 0.80
4	Validity Testing: Internal Validity	32	170	Correlation coefficient of score of two similar items in the scale	Correlation coefficient was 0.88

VII. SCALING PROCEDURE

Based on the components mentioned in table no.1., initially 41 statements were prepared to capture service quality perceptions in Indian health care sector. Upon scrutiny the authors have arrived at set of 34 items after eliminating the redundant items by submitting the statements to experts in academics, business and banking sector managers, who were believed to have knowledge of the subject for fair judgment. The scaling procedure used by the authors is as follows;

As it was felt that a large number of statements were necessary to measure the construct Customer Perception of Service Quality, Likert Scales were used for measuring the attitudes of the respondents for each item. Therefore, a five-point Likert Scale ranging from 'strongly agree (=5)" to "strongly disagree (=1)" with a

mid point "neither agree nor disagree (=3)" was used to measure the response to each statement. The respondents' score on each statement were summed together to measure his or her perception towards service quality.

VIII. Item Analysis and Selection

All the 41 statements found in the preliminary inventory was given to conveniently selected members of 74 respondents who hail form different socio-economic-demographic characteristics. The summated item scores in respect of all the respondents were ordered form highest to lowest for this preliminary scale. After this, item analysis was conducted for each of the 41 statements between the highest and lowest groups through a t-test. Based on the results, 36 items were found significantly differentiating the two groups and thus were retained for the reliability analysis.

IX. Scale Reliability Analysis

The reliability of the scale was examined through three reliability tests, two to measure the internal consistency of the items and, one to measure the temporal stability of the scale. The split-half reliability test was conducted to estimate the scale's internal consistency in a single point of time. This method estimates the equivalence that would exist if subjects were administered to different scales to measure the same construct. to form two different sets. By computing the correlation coefficient for these two scores total for all the respondents the split-half reliability is established. Respondents for this analysis were 170 customers who were administered 32 statements. A split-half reliability using Guttmann's formula yielded the reliability coefficient of .91 as shown in table-3, which is quite satisfactory.

The main drawback of this split-half method of examining the internal consistency of the scale is that the different coefficient are obtained depending upon how the items are split thereby making difficult to determine the real reliability coefficient. The Cronbach coefficient alpha overcomes this weakness and is the most popular method of estimating scale's reliability coefficient. The Cronbach alpha yielded a very high coefficient of .99 (which is similar to Guttmann's), thus corroborating the scale's reliability.

For establishing the temporal reliability of the scale, a re-test was conducted. The responses for this purpose were obtained from only 86 customers. Approximately 6weeks after the first response were obtained, the same respondents who had responded to the first survey were approached and responses were obtained. The correlation coefficient for the respondents' total score of 32 items in the test-1 and the test-2 was computed as, .78 and .80 respectively, clearly indicating the scale stability over time.

X. Scale Validity

Validity implies the scale's ability to measure what it intends to measure. For the purpose of this scales development, internal validity was adopted. Internal validity implies the internal analysis of the respondents' consistency. Two statements in the inventory (item no.2 and item no.14) were used to find out how closely they are related. The correlation coefficient calculated upon the respondents of the 170 respondents to these two statements was found to be .88 indicating the scale's internal validity. The inventory developed by authors is presented hereunder.

XI. Clement-Selvam Service Quality Inventory

The service quality inventory (containing 32 items) developed by the authors of this research paper to capture service quality in Indian hospitals sector is appended here:

1. Intensity and depth of service (e.g. offering more number of service options for a given transactions.
2. Availability of more service operations in most branches of the bank.
3. Convenient operating hours and days (e.g. working on Saturdays and Sundays, extended service hours, etc.).
4. Providing services as promised.
5. The necessary skills and ability of the employees for actions whenever a critical incident takes place (i.e. when a problem arises).
6. Solving the problems immediately whenever it arises
7. Providing services right the first time.
8. Providing services as per the promised schedule.
9. Apprising the customers of the nature and schedule of services available in the organization.
10. Prompt service to consumers.
11. Willingness to help customers and the readiness to respond to customers' requests.
12. Extent to which the feedback from customers is used to improve service standards.
13. Regularly apprising the customers about information on service quality and actual service performance.
14. Employees who instill confidence in customers by proper behavior.

15. Making customers feel safe, secure, satisfied and delighted in their transactions.
16. Employees who are consistently pleasing and courteous.
17. Employees who have the knowledge and competence to answer customers' specific queries and requests.
18. Effectiveness of customer grievance procedures and processes.
19. Giving caring and individual attention to customers by having the customers' best interest at heart.
20. Employees who understand the need of their customers.
21. Having a highly standardized and simplified delivery process so that services are delivered without any hassles.
22. Having a highly simplified and structured delivery process so that service delivery times are minimal.
23. Degree to which the procedures and process are perfectly foolproof.
24. Adequate and necessary personnel for good customer service.
25. The ambient conditions such as temperature, ventilation, noise, odour, etc. prevailing in organization premises.
26. Physical layout of equipment and other furnishings are comfortable for the customers to interact.
27. Maintaining the interiors in the most appealing form.
28. Employees who have a neat and professional appearance.
29. Visually appealing materials and facilities associated with the service.
30. Equal treatment to all customers, without any bias.
31. Having branch locations in most places convenient to all sections of the society (e.g. remote villages, down town areas, etc.).
32. A sense of public responsibility among employees (in terms of being punctual, regular, sincere and without going on strikes).

XII. CONCLUSION

Service researchers of late attach paramount importance to the study and measurement of service quality as the crux of services marketing is solely dependent on customers' perception of quality and their satisfaction. While innumerous studies have been conducted right across the world using different models for the measurement of service quality, the authors have found only a handful of studies have been attempted in a developing country like India. Apart from this, the changing situational and economic factors necessitate the need to develop an exclusive scale for measuring the service quality in Indian context, considering the cultural norms, values and ethos shared by corporate and the Indian consumers at large. Though this inventory is empirically tested with the hospital customers of India, the authors of this research paper exhort that this scale can be used by service researchers of any developing economy endeavoring to measure service quality of any service sector.

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